Remarks:

This is in response to the final Office Action dated July 28, 2006. This response is filed within two months of the mailing of the final Office Action. Pursuant to this amendment claims 1-12 are pending. Reexamination and reconsideration are respectfully requested.

The Office Action rejects claims 1-12 as being unpatentable over U.S. Patent No. 6,944,109 to Wang, et al., taken in view of U.S. Patent No. 6,930,968 to Kamioka, et al. and, for some claims, alleged "well known ...use" and Official Notice. Applicant submits that the claims clearly distinguish over the proposed combinations of references because the claims recite testing timing characteristics of an electrical channel between an optical drive controller and a laser diode driver and neither of the cited references tests any timing characteristics.

As noted in the final Office Action, the Wang patent does not teach testing the timing characteristics of an electrical channel between an optical drive controller and a laser diode driver. Office Action at 2. Contrary to the Office Action, however, the secondary reference does not teach anything about testing the timing characteristics of an electrical channel and does not teach anything about calibration signals. Rather, the Kamioka patent teaches the selective use of a filter to either save power or to maintain better signal fidelity.

Jitter, skew and other timing errors and variations in the channel between a controller and a laser diode driver can cause write errors and cannot conventionally be detected in optical disk drives. Application at ¶¶ 15, 22-24. The systems described in the application can address these problems by testing the WSR channel between the controller and the laser diode driver and adjusting the laser diode driver's pulse generation according to the delays and variations detected in the channel. The present application specifies that a preferred optical drive controller tests the timing characteristics of a WSR channel between the controller and the

laser diode driver and adjusts timing characteristics to correct for detected timing variations. These aspects of the application's system are described, for example, in paragraphs 16-17 and 25-31. Monitoring and adjusting for timing variations is not performed in the Wang patent's system and is not suggested by the Wang patent. Similarly, the Kamioka patent is silent as to testing the timing characteristics of a channel between the laser diode and the optical drive controller.

The primary reference, the Wang patent is directed to a system for adjusting the power output of a laser diode and does not test the timing characteristics of a channel between a laser diode driver and an optical drive controller. Because the Wang patent is directed to a laser diode power monitoring and control system, it does not adjust the timing of the laser diode driver according to channel delay characteristics.

The Kamioka patent describes an optical disk controller for generating the PWM signals and addressing certain problems with the implementation of PWM signals in optical disk drives. In one aspect, the Kamioka patent teaches adding a 300 MHz modulation signal to the primary modulation signal to prevent mode hopping in the laser, which thereby reduces noises from the laser. Kamioka patent, col. 14, lines 1-14. In another aspect, filter 515 is implemented with a switch 520 to selectively incorporate the filter 515 in the circuit to reduce power consumption and to take the filter 515 out of the circuit to improve signal fidelity during an initial part of the write process. Kamioka patent, col. 14, lines 23-63; FIG. 6. There is, on the other hand, nothing in the Kamioka patent about testing the timing characteristics of an electrical channel between the optical disk controller and the laser diode driver.

The Office Action references column 16, lines 47-53 to support the allegation that the Kamioka patent describes testing a timing characteristic. This is incorrect. The cited passage describes the operation of switching section 520 to selectively

incorporate the filter 515 in the circuit. This is illustrated in part in FIG. 3, which shows that the signal S controls the switching section 520. The signal S is illustrated in Fig. 6, which shows that the signal S is regularly switched high to optimize the circuit characteristics for the initial part of the write process. S is not responsive to any timing measurements and is instead a regularly generated signal. Consequently, the cited passage does not state and does not suggest that the Kamioka patent describes testing the timing characteristics of the channel or generating any set of calibration signals responsive to the timing characteristics determined by testing.

Consequently, neither the Wang patent nor the Kamioka patent describe testing an electrical channel between an optical disk controller and a laser diode driver and neither teaches or suggests the presently claimed inventions.

Claim 1 distinguishes over the Wang patent in combination with the Kamioka patent by reciting "the optical drive controller testing timing characteristics of an electrical channel between the optical drive controller and a laser diode driver and ... generating a set of calibration signals ... responsive to the timing characteristics tested by the optical drive controller." Neither the Wang patent nor the Kamioka patent describe testing the timing characteristics of the channel or generating any set of calibration signals responsive to the timing characteristics determined by testing. Consequently, claim 1 and its dependent claims 2-7 distinguish over the Wang patent in combination with the Kamioka patent and the other art of record and are in condition for allowance.

Claim 8 distinguishes over the Wang patent in combination with the Kamioka patent by specifying "a WSR channel coupling the optical drive controller to the laser diode driver." Claim 8 further distinguishes over the Wang patent by reciting "the optical drive controller outputting timing test signals over the WSR channel, the laser diode driver ... responsively generating a monitor signal

responsive to timing characteristics of the WSR channel." Neither the Wang patent nor the Kamioka patent describe testing the timing characteristics of the channel or generating any set of calibration signals responsive to the timing characteristics determined by testing. Consequently claim 8 and its dependent claims 9-12 distinguish over the art of record and are in condition for allowance.

Applicant wishes to address the Office Action's citation on page 4 that "WSR circuits are an easy and inexpensive way to store information" because this statement makes no sense. "WSR circuits" do not store information. Rather, as illustrated in FIGS. 1 and 2 and explained at paragraphs 19, 21, 25 and 30-31, the WSR circuits generate WSR signals that control read and write operations and provide clock for communications between the disk drive controller and the laser diode driver. In light of the mischaracterization of WSR circuits and the apparent misunderstanding of the operation of such circuits, applicant does not agree with the Office Action's position stated on its page 4.

Moreover, claims 8-11 all recite the communication of test signals through a WSR channel and do not recite WSR circuits. In light of this, applicant requests that the rejection of claims 8-10 be withdrawn. If the Examiner is to maintain any rejection of these claims, applicant respectfully requests that the Examiner identify appropriate prior art to support this rejection. Moreover, the Office Action does not appear to properly address claim 11, which depends from claim 9. Applicant respectfully submits that claim 11, through its dependence on claim 9, also recites communication through a WSR channel.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Reexamination and reconsideration of the application, as amended, are requested.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at the Los

Angeles, California telephone number (310) 785-4600 to discuss the steps necessary for placing the application in condition for allowance.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-1314.

Respectfully submitted,
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